

# Pentra<sup>®</sup>-Sil

## (H) At-Time-of-Placement Hardener

Convergent Group S.A.

Specialty Chemical Concrete  
Treatments Commercial

Products Group  
Zoning Industriel de Mariembourg  
Rue des Mousquetaires Gris, 35  
B-5660 Mariembourg  
Belgium - Europe  
Office: +32 60 390 752  
Fax: +32 60 390 751

[www.convergent-group.com](http://www.convergent-group.com)



**nanoLithium**

**Patented Technologies by Advan**

Nano-Lithium<sup>®</sup> (NL)  
Concrete Treatment  
[www.nano-lithium.com](http://www.nano-lithium.com)



### PRODUCT DESCRIPTION

**Pentra<sup>®</sup>-Sil (H)** is a premium lithium polysilicate hardener for fresh, newly-troweled concrete and tilt-up construction slabs. This fast-drying reactive formula provides maximum hardening to improve abrasion resistance and reduce dusting with a simple, one-coat application. Curing compounds can be applied directly on top of treated surfaces to enhance hydration without the discoloration and whitening associated with traditional hardeners. The treatment leaves no film, reduces application time and cost, and allows most curing compounds to be more easily removed with scrubbing after concrete is cured, typically 28 days.

This easy-to-use water-based solution requires no rinsing and is VOC compliant. The treatment creates a surface that is dense yet breathable, forming an extremely hard surface. When applied to new concrete, it penetrates up to 7mm where it reacts with free calcium to form insoluble calcium silica hydrate, which makes concrete more water, stain, and abrasion resistant for easier maintenance and a longer life.

### KEY BENEFITS

- Easy application, no rinsing required
- Penetrates, no film to lift or peel off
- Reduces efflorescence and surface sweating
- Does not contribute to surface ASR or surface crazing
- Compatible with integrally colored concrete, stains and dyes.
- Allows curing compounds to be more easily removed with simple scrubbing.
- Ensures uniformly hardened and densified concrete.
- Prolongs finish of polished surfaces
- Resists stains and dusting, making concrete easier to maintain
- VOC Compliant, can contribute to LEED points

**CUSTOMER SERVICE:**

(+32 60 390 752) to verify the most current versions, visit our website: [www.convergent-group.com](http://www.convergent-group.com) or scan the code.

**USES**

- **New Construction** - power-troweled concrete and tilt-up construction slabs.
- **Commercial:** Grocery Stores, Office Building, Retail, Banks, Malls, Warehouses, Distribution Centers
- **Industrial:** Food Processing Facilities, Cold Storage / Freezers, Beverage and Manufacturing Plants
- **Institutional:** Churches, Hospitals, Universities, Schools, Museums Theme & Leisure: Resorts, Hotels, Casinos, Restaurants, Theaters
- **Governmental:** Federal & State Buildings, Prisons
- **Residential:** Concrete floors and Garages

**IMPORTANT NOTICE**

This information is accurate to the best of our knowledge and is to be used as a guide to product selection. However, since the conditions of handling, installation and use are beyond our control, we make no guarantee of results. When in doubt, please test first.

Make certain the most current version of the **Pentra®-Sil (H)** At-Time-of-Placement Hardener Product Data sheet and MSDS are being used. Please read this information prior to use; call Customer Service (+32 60 390 752) to verify the most current versions or visit our website: [www.convergent-group.com](http://www.convergent-group.com) where you can also find additional tips, guidelines and specifications. Proper application is the responsibility of the user. Field visits by Convergent Group personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the job site.

For mechanically polishing/honing floors, we recommend **Pentra®-Sil (IH)** Impregnating Hardener. If higher performance is needed, use **Pentra®-Sil (NL)** Hardener, Densifier to seal the surface and provide enhanced chemical and abrasion resistance. If concrete is integrally colored, stained or dyed, we recommend **Pentra®-Sil (HDS)** Hardener, Densifier, Sealer followed by **Pentra®-Finish** High Performance gloss, stain, and wear protection for maximum protection and appearance.

**APPLICATION**

BEFORE APPLICATION, ALWAYS DO A SMALL TEST SAMPLE IN A LESS-VISIBLE AREA TO BE SURE THERE ARE NO VARIABLES OR CONTAMINANTS IN THE SUB-STRATE THAT MAY BE INCOMPATIBLE WITH THIS PRODUCT.

Placement: Using an HVLP sprayer, or a good pump up sprayer for smaller jobs, spray **PENTRA®-SIL (H)** AT-TIME-OF-PLACEMENT HARDENER evenly on the surface. Spread out any pools with a soft bristle broom or a flat microfiber pad. If areas begin to dry out before 20 minutes (edges, high spots) spray on more material. Surface is ready for use when dry, but the complete reaction may take up to two weeks to develop depending on site temperature and conditions.

In cool, humid, or enclosed conditions, **PENTRA®-SIL (H)** AT-TIME-OF-PLACEMENT HARDENER may stay wet for a long time. After 1 hour of dwell time, use an auto-scrubber to rinse the surface and pick up excess material.

If concrete is dyed, acid stained, or integrally colored, it may be advisable to clean with scrubbing equipment once the application is complete to produce a more even finish.

To enhance the color intensity, gloss and light reflectance, and to reduce efflorescence, mineral deposits and staining use **PENTRA®-FINISH** High-gloss, Stain and Wear Protector in conjunction with **PENTRA®-SIL (H)** At-Time-of-Placement Hardener as a post-applied topical treatment.

On newly placed concrete, **PENTRA®-SIL (H) AT-TIME-OF-PLACEMENT HARDENER** may be applied immediately after the finishing, or immediately after joints have been cut and cleaned, or anytime thereafter, at the project manager's discretion. CONVERGENT GROUP SA approved membrane forming curing materials or bond breakers may be applied over the top of **PENTRA®-SIL (H) AT-TIME-OF-PLACEMENT HARDENER** once it is no longer wet on the surface. Contact CONVERGENT for recommendations.

### **ESTIMATED COVERAGE**

Steel Troweled Finish -- 1 liter per 12 to 19m<sup>2</sup>. Coverage rate will vary with concrete finish and porosity may require more material.

### **CLEAN UP**

Use soap and water to clean tools and equipment. Although **PENTRA®-SIL (H) AT-TIME-OF-PLACEMENT HARDENER** is non-toxic and environmentally safe, it is alkaline—use up or dry out extra material and dispose of according to local regulations. Don't pour into sewer systems or storm drains.

### **MAINTENANCE**

Clean up spills promptly. Regular aggressive scrubbing with neutral cleaners is recommended.

Avoid cleaners containing citrus or butyl compounds, or cleaners with a pH below 7.

### **LIMITATIONS**

**Pentra®-Sil (H)** will not bridge or fill cracks and will not salvage honeycombed or structurally unsound surfaces. Not suitable for asphalt, non-cement surfaces or painted surfaces. (Paint and coatings may be applied over the top of **Pentra®-Sil (H)**—follow paint or coating manufacturer's instructions.)

## PRECAUTIONS

### READ MSDS PRIOR TO USING PRODUCT

- KEEP OUT OF REACH OF CHILDREN.
- Although this product is non-toxic and non-hazardous, it is alkaline. Do not drink. If swallowed, do not induce vomiting, call physician.
- Keep container closed tightly when not in use. Wear goggles and gloves. If splashed in eyes, rinse eyes immediately with clean water and call a physician if irritation persists.
- **PENTRA<sup>®</sup>-SIL (H)** AT-TIME-OF-PLACEMENT HARDENER will dry out and irritate the skin. Clean skin with soap and water promptly.
- Additional precautions, safety information and first aid treatments are contained in the Material Safety Data Sheet.
- **PENTRA<sup>®</sup>-SIL (H)** AT-TIME-OF-PLACEMENT HARDENER will bond to most surfaces immediately, so wash off over spray with water and mild detergent.
- CAUTION: Surfaces wet with **PENTRA<sup>®</sup>-SIL (H)** AT-TIME-OF-PLACEMENT HARDENER may be slippery.

## PROPERTIES

Active Ingredients: 100% of total solids Total Solids: 8.8%

Specific Gravity	1.05
pH	11.
VOC Content	<50g/L
Flash Point	NA
Freeze Point	0°C
Shelf Life	2 Year in unopened factory sealed container

## PACKAGING

20 L Basket  
200 L Drum  
600 L Tote  
1000 L Tote

**TECHNICAL SERVICE**

Customer Care  
+32 60 390 752

**EMAIL**

technical@convergent-group.com

**WEB**

www.convergent-group.com

**For chemical/medical emergencies only,**

Anti Poison BE +32 70 245 245  
Outside USA 352-323-3500

**WARRANTY**

**LIMITED WARRANTY NOTICE.** Every reasonable effort is made to apply exacting standards both in the manufacture of our products and in the information that we issue concerning these products and their use. We warrant our products to be of good quality and will replace or, at our election, refund the purchase price of any products proved defective. Satisfactory results depend not only upon quality products, but also upon many factors beyond our control. Therefore, except for such replacement or refund, CONVERGENT GROUP S.A. ("CONVERGENT") MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, RESPECTING ITS PRODUCTS, and CONVERGENT shall have no other liability with respect thereto. Any claim regarding product defect must be received in writing within one (1) year from the date of shipment. No claim will be considered without such written notice or after the specified time interval. User shall determine the suitability of the products for the intended use and assume all risks and liability in connection therewith. Any authorized change in the printed recommendations concerning the use of our products must bear the signature of CONVERGENT'S Research Director. This information and all further technical advice are based on CONVERGENT'S present knowledge and experience. However, CONVERGENT assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third party intellectual property rights, especially patent rights. In particular, CONVERGENT disclaims all WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY. CONVERGENT SHALL NOT BE RESPONSIBLE FOR CONSEQUENTIAL INDIRECT OR INCIDENTAL DAMAGES (INCLUDING LOSS OF PROFITS) OF ANY KIND. CONVERGENT reserves the right to make any changes according to technological progress or further developments. It is the customer's (Authorized Applicator) responsibility and obligation to carefully inspect and test any incoming goods. Performance of the product(s) described herein should be verified by testing and carried out only by qualified experts. It is the sole responsibility of the customer to carry out and arrange for any such testing. Reference to trade names used by other companies is neither a recommendation, nor an endorsement of any product and does not imply that similar products could not be used. CONVERGENT reserves the right to change specifications referred to in this literature at any time, without prior notice. The information contained herein is, to our knowledge, true and accurate. While this material is furnished in good faith, no warranty expressed or implied, of merchantability, completeness, fitness or otherwise is made. This material is offered only for your consideration, investigation and verification, and CONVERGENT disclaims any liability incurred from the use thereof and shall not in any event, be liable for any special, incidental or consequential damages arising from such use. This information is not intended to be all inclusive and the manner and conditions of use and handling of any material may involve other or additional considerations specific to the use or user. Nothing herein should be construed as permission or recommendation to infringe any patent or as to any specific use. No agent, representative or employee of this company is authorized to vary any term of this notice.



**CONVERGENT GROUP**

CONCRETE TECHNOLOGIES

Refer to [www.convergent-group.com](http://www.convergent-group.com) for latest Technical Data Sheet and MSDS.

Convergent Group S.A. - Specialty Chemical Concrete Treatments • ZI de Mariembourg • Rue des Mousquetaires Gris, 35 • 5660 Mariembourg  
• Belgique (Europe) • +32 60 390 752

**UNIQUE STRENGTHS, UNMATCHED PERFORMANCE.™**

©2020 Convergent Group S.A. All Rights Reserved.

Pentra®-Sil (H) is a registered trademark of Convergent Group S.A. Nano-Lithium® brand name and logo are registered trademarks of Advanced Concrete Technologies, LLC ("ADVAN") and sub-licensed to Convergent Group S.A., under a non exclusive co-brand/technology license. All rights reserved. Products manufactured and marketed by CONVERGENT GROUP S.A. are protected by patents and/or pending patents under license in the United States and other countries by ADVANCED CONCRETE TECHNOLOGIES, LLC. ADVANCED CONCRETE TECHNOLOGIES, LLC makes no claim as to the product performance or product shown to be other than as warranted. REVISION DATE010220